

### **REMARKS**

Applicants respectfully request reconsideration. Claims 1-31 were previously pending in this application. By this amendment, Applicants are amending claims 1, 9-14, 22-26, and 29-31. New claims 32-36 have been added. As a result, claims 1-36 are pending for examination with claims 1, 9-14, and 22-26 being independent claims. No new matter has been added.

#### **Rejections under 35 U.S.C. §112**

Claims 19, 25-26, and 31 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Office Action states that claim 19 is indefinite in reciting “a strongly acidic semiconductor fine particle dispersion”. In particular, the Office Action refers to the word, “strongly”, arguing that it does not claim any specific pH value which would make the dispersion strongly acidic. Applicants have removed the word, “strongly”, from the claim.

The Office Action further states that claims 25 and 26 lack sufficient antecedent basis in reciting “semiconductor electrode”. The Office Action suggests deleting “electrode” after “semiconductor”, and inserting “fine particle layer” after “semiconductor”. Applicants have amended the claims as suggested.

Accordingly, withdrawal of the rejection of these claims is respectfully requested.

#### **Rejections Under 35 U.S.C. §103**

Claims 1-13 and 27-28 stand rejected under 35 U.S.C. §103 as being unpatentable over Nakamura et al. (U.S. Application No. 2002/0015881) in view of Roman et al. (U.S. Patent No. 6,852,555). Claims 14-26 and 29-31 stand rejected under 35 U.S.C. §103 as being unpatentable over Nakamura in view of Meinhardt et al., “Optoelectronic Device made from Multilayer and

Molecularly Doped Organic Layers," SPIE Conference on Organic Photonic Materials and Devices Vol. 3623, January 1999 pages 46-57.

Nakamura describes a dye-sensitized photoelectric conversion device including a particulate semiconductor layer that is prepared from irradiating semiconductor particles with an electromagnetic wave or heating under pressure. Roman describes an organic thin-film semiconducting device that includes a low work function metal layer associated with a doped conjugated polymer layer. Meinhardt describes an optoelectronic device with multilayered heterostructure that optimizes charge transfer between molecularly doped organic layers.

Independent claims 1 and 9-13 have been amended to recite the metal oxide film directly contacting the intermediate film. In this respect, neither Nakamura, Roman, nor Meinhardt teach or suggest an intermediate film directly contacting *both* a metal film and a metal oxide film.

Furthermore, independent claims 14 and 22-24 have been amended to recite forming an forming an opposite electrode associated with the semiconductor electrode, the opposite electrode having a second intermediate film on a second metal oxide film, the second intermediate film directly contacting the second metal oxide film and the second intermediate film directly contacting a metal film. In addition, independent claims 25-26 have been amended to recite forming an electrode associated with the semiconductor fine particle layer, the electrode having a second intermediate film on a second metal oxide film, the second intermediate film directly contacting the second metal oxide film and the second intermediate film directly contacting a metal film. Neither Nakamura, Roman, nor Meinhardt teach or suggest another electrode where a second intermediate film directly contacts *both* a second metal oxide film and a metal film.

As a result, independent claims 1, 9-14, and 22-26 should be in condition for allowance. Because claims 2-8 and 27 depend directly from independent claim 1, and claims 15-21 and 29 depend directly from independent claim 14, for at least the same reasons as stated above for claim 1, these claims should also be in condition for allowance. Similarly, because claims 28 and 30-31 depend directly from independent claims 9, 22, and 25, respectively, these claims should be in condition for allowance.

Accordingly, withdrawal of this rejection is respectfully requested.

New Claims

Applicants have added new claims 32-36 directed to a semiconductor layer and an electrode layer being formed separately from one another. Support for these claims may be found in the specification, at least, on page 53, line 7 to page 54, line 18; and page 59, line 17 to page 61, line 3. As these claims depend directly from independent claims 1, 9, 14, 22, and 25, respectively, Applicants believe that claims 32-36 should be in condition for allowance.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. S1459.70088US00.

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Respectfully submitted,

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